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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of Carlson) Group Art Unit: 3683
Application No.: 10/647,554) Examiner: Melanie Torres
Filed: August 25, 2003) Confirmation No.: 3115
For: System Comprising) Attorney Docket No.: IR-2803(EV)DIV2
Magnetically Actuated Motion)
Control Device)

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CERTIFICATE OF MAILING UNDER 37 CFR 1.8(A)

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Amy J. Martin

Date

3-17-06

BRIEF FOR APPELLANT

Sir:

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(i) *Real party in Interest.*

The present application is assigned to Lord Corporation, a corporation organized and existing under the laws of the Commonwealth of Pennsylvania and engaged in business in Cary, North Carolina.

(ii) *Related appeals and interferences.*

The Appellants' legal representative, or assignee, does not know of any other appeal or interferences, which will affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

(iii) *Status of claims.*

Claims 1 and 13-21 are pending and on appeal in the application. Claims 1 and 13-21 are rejected. Claims 2-7 and 10-11 are withdrawn. Claims 8-9 and 12 are canceled. Pursuant to 37 C.F.R. § 1.191(a), Appellants hereby appeal the Examiner's decision finally rejecting claims 1 and 13-21 to the Board of Patent Appeals and Interferences.

(iv) *Status of amendments.*

A final Official Action was issued July 12, 2005, rejecting claims 1 and 13-21 under 35 U.S.C. § 103(a). A Request for Reconsideration with Remarks was filed on January 12, 2006. A Notice of Appeal was filed by mail on January 12, 2006 with the Request for Reconsideration, and deemed filed on January 17, 2006. An Advisory Action was issued on February 1, 2006 maintaining the final rejection. The fee of \$500.00 for filing this appeal brief is to be deducted from deposit account 12-2143, and hereby authorization to charge all required fees to this deposit account is granted.

A clean copy of claims 1 and 13-21 at issue on appeal is attached as the Appendix.

(v) *Summary of claimed subject matter.*

The invention is summarized in paragraph [0008] on page 3. The invention defined in the claims is a dynamic state sensing movable member magnetically actuated motion control device as shown by the magnetic friction damper 191 in FIG. 16-18. Claim 1, the only independent claim, claims the magnetically actuated motion control device such as shown by magnetic friction damper 191 in FIG. 16 and described in paragraphs [0099]-[0100] on pages 15-16. The magnetically actuated motion control device 191 includes a housing 103 defining a cavity for receiving a movable member 195 (damper piston) described in paragraphs [0099]-[0100] on page 15 and shown as 191 in FIG. 16-18. The housing 103 is comprised of a magnetic field attracted material as described in paragraph [0080] on page 9. The movable member 195 is located in the cavity, with the movable member 195 movable in the cavity relative to the housing 103. The magnetically actuated motion control device 191 includes an electromagnetic coil 115 as shown in FIG. 16 and described in paragraph [0100]. The electromagnetic coil 115 generates a magnetic field to attract housing magnetic field attracted material 103 into contact with the movable member 195 when supplied with a current to control motion of the movable member 195 relative to the housing 103 as described in paragraph [0080] on page 9, and as shown by FIG. 12 and described in paragraph [0093] on page 13. The magnetically actuated motion control device 191 includes a sensor 193 as shown in FIG. 16-18 and described in paragraphs [0099]-[0101] on pages 15-16. The sensor 193 includes a first sensor member 194 secured to the housing 103 such as shown in FIG. 16-18 and described in paragraphs [0099]-[0101] on pages 15-16. The sensor 193 includes a second sensor member 196 coupled to the movable member 195, wherein a relative position between the first sensor member 194 and the second sensor member 196 indicates the position of the movable member 195 relative to the housing 103 such as shown in FIG. 16-18 and described in paragraphs [0099]-[0101] on pages 15-16.

(vi) *Grounds of rejection to be reviewed on appeal.*

The issue presented on appeal is:

1. Whether claims 1 and 13-21 are properly rejected under 35 U.S.C. § 103(a) over Sandrin et al (US Patent 6,202,806) in view of Arai.

(vii) *Argument.*

Sandrin et al (US Patent 6,202,806) in view of Arai (Claims 1 and 13-21)

Claims 1 and 13-21 were rejected under 35 U.S.C. § 103(a) over Sandrin et al in view of Arai in the 7/12/2005 Final Rejection. A thorough review of these two references and the present claims 1 and 13-21 clearly shows that this rejection is improper and should be withdrawn. Sandrin et al and Arai are combined in the rejection of the claims to result in the motion control device of Sandrin et al with the sensor of Arai. In this rejection of current claims 1 and 13-21, it is stated that "Sandrin et al. teach a dynamic state sensing movable member magnetically actuated motion control device, the magnetically actuated motion control device including a housing (24), said housing defining a cavity for receiving a movable member (22) in said cavity relative to the housing, an electromagnetic coil (80), the electromagnetic coil generating a magnetic field to attract the housing magnetic field attracted material into contact with the movable member when supplied with a current to control motion of the movable member relative to the housing in which the movable member is located." This is incorrect and clearly a mis-statement of fact, and with this being the primary reference and basis of the rejection, the rejection is improper and should be withdrawn. A complete reading of Sandrin et al., which is assigned to Appellants, and has J. David Carlson as an inventor in common with the current application, clearly shows that this statement forming the basis of the rejection is incorrect and a mis-statement of fact. Sandrin et al. clearly shows that the housing (24) is not drawn into contact with the movable member (22) by the magnetic field generated by the electromagnetic coil (80).

As disclosed in the Summary of Sandrin et al. (column 2, lines 12-15) "a small amount of controllable medium, preferably in fluid form, is entirely contained in a working space between relatively movable members subjected to the magnetic field by a fluid-retaining means". Then further at column 2, lines 25-31, Sandrin et al. teaches and clearly states that the that "In particular, the present invention is a magnetorheological medium device which comprises first and second members coupled for relative movement and having a working space therebetween, means for producing a magnetic field that acts on the first and second members and the working space and a field controllable medium contained substantially entirely in the working space." Sandrin et al. clearly teaches away from contact between housing (24) and movable member (22), as can be seen in Fig. 1 and at Column 7, lines 9-20 by disclosing that "The first 22 and second 24 members each preferably include magnetically permeable material (such as a soft magnetic steel), which can be done by forming each of the members 22, 24 entirely from such a material, or including such material as a component part or integrated portion of the member 22, 24. A field responsive controllable medium 28, such as a controllable fluid, compatible with the field generating means is contained in the working space 26 by fluid retaining means 30. Magnetorheological controllable fluids as contemplated for the present invention are disclosed in, for example, U.S. Pat. No. 5,382,373 to Carlson et al. and U.S. Pat. No. 5,578,238 to Weiss et al." Sandrin et al. clearly does not describe, disclose, suggest, or teach generating a magnetic field to attract the housing magnetic field attracted material (24) into contact with the movable member (22). Sandrin et al clearly teaches maintaining a working space (26) between the housing magnetic field attracted material (24) and the movable member (22), with the working space (26) containing the fluid retaining means (30) and its controllable medium (28). At Column 7, lines 25-32 Sandrin et al. discloses that "The field generating means alters the rheology of the controllable medium 28 in proportion to the strength of the field. The controllable medium 28 becomes increasingly viscous with increasing field strength, and provides a shear force to resist movement between the members 22, 24. The members 22, 24 are preferably fixedly secured to relatively moveable structures (not shown) to provide resistance to movement therebetween." Clearly Sandrin et al. does not disclose its housing (24) with its cavity for receiving its movable member (22) in the cavity movable

relative to its housing, with its electromagnetic coil (80) generating a magnetic field to attract the housing magnetic field attracted material into contact with the movable member when supplied with a current to control motion of the movable member relative to the housing in which the movable member is located. Sandrin et al. controls motion by controlling the rheology of the controllable medium 28 between the movable member and the housing. The magnetically actuated motion control device of Sandrin et al. is actually designed with the working space (26) maintained between the movable member and the housing to provide a space for the controllable medium (28). This misstatement of facts as the basis of the rejection of claims 1 and 13-21 was pointed out and argued in the Remarks filed with the 1/12/06 Request for Reconsideration. In response to this the 2/1/06 Advisory Action states that "There is no limitation requiring direct contact between the two elements." Applicants contend that this is incorrect in that the current claim 1 includes "said housing comprised of a magnetic field attracted material, said movable member located in said cavity, said movable member movable in said cavity relative to said housing, an electromagnetic coil, said electromagnetic coil generating a magnetic field to attract said housing magnetic field attracted material into contact with said movable member when supplied with a current to control motion of said movable member relative to said housing" (underline emphasis added). The current claims requires attracting the housing and its magnetic field attracted material into contact with the movable member to control the motion of the movable member relative to the housing.

The current claim 1 requires and includes the limitation of attracting the housing and its magnetic field attracted material into contact with the movable member to control the motion of the movable member relative to the housing while Sandrin et al. clearly does not disclose the electromagnetic coil 80 generating a magnetic field to attract the housing 24 into contact with the movable member 22. Arai is cited in the Final Rejection as teaching a sensor, and clearly does not make up for the shortcomings of Sandrin et al. in terms of the housing 24 drawn into contact with the movable member 22. In that the only pending independent Claim 1, clearly claims that the housing magnetic field attracted material is attracted into contact with the movable member to control motion of the movable member relative to the housing, the rejection of the pending claims is

improper. In view that the 35 U.S.C. 103 (a) rejection is based on a mis-statement of fact that Sandrin et al. teaches generating a magnetic field to attract the housing (24) magnetic field attracted material into contact with the movable member (22), the Final Rejection of the pending claims 1 and 13-21 must be withdrawn and Applicant's respectfully request allowance of the pending claims 1 and 13-21.

In addition, Appellants traverse the rejection under 35 U.S.C. 103(a) on the basis that the prior art must suggest the desirability of making the claimed invention, i.e., provide a teaching or suggestion to one of ordinary skill in the art to have made the changes that would have produced the claimed subject matter. *Ryco Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). As argued above the magnetically actuated motion control device of Sandrin et al. is actually designed with the working space (26) maintained between the movable member and the housing to provide a space for the controllable medium (28). There is no suggestion in Sandrin et al. or Arai to abandon this principle of operation and switch to the present claimed inventions limitation of attracting the housing material into contact with the movable member. To the contrary the principle of operation of Sandrin et al. requires maintaining a working space between the housing material and the movable member. There is no suggestion to combine Sandrin et al. and Arai to result in a motion control device as claimed, and the proposed combination of Sandrin et al. and Arai does not render the present claims obvious in view of the deficiencies of Sandrin et al. as described above.

Appellants have shown that the prior teachings of Sandrin et al in view of Arai as combined, do not suggest what Appellants claim. The proposed combination by the Office is faulty, in that Sandrin et al does not disclose attracting the housing material into contact with the movable member when supplied with a current to control motion of the movable member relative to the housing.

For the reasons set forth above, it is respectfully submitted that the rejections of claims 1 and 13-21 are improper and should be reversed.

(viii) Claims Appendix.

What is claimed is:

1. A dynamic state sensing movable member magnetically actuated motion control device, the magnetically actuated motion control device including a housing, said housing defining a cavity for receiving a movable member, said housing comprised of a magnetic field attracted material, said movable member- located in said cavity, said movable member movable in said cavity relative to said housing, an electromagnetic coil, said electromagnetic coil generating a magnetic field to attract said housing magnetic field attracted material into contact with said movable member when supplied with a current to control motion of said movable member relative to said housing , a sensor comprising

a first sensor member secured to the housing

a second sensor member coupled to the movable member, wherein a relative position between the first sensor member and the second sensor member indicates the position of the movable member relative to the housing.

2. (Withdrawn)

3. (Withdrawn)

4. (Withdrawn)

5. (Withdrawn)

6. (Withdrawn)

7. (Withdrawn)

8. (Canceled)

9. (Canceled)

10. (Withdrawn)

11. (Withdrawn)

12. (Canceled)

13. A device as claimed in claim 1 wherein said magnetic field attracted material is comprised of a steel.

14. A device as claimed in claim 1 wherein said magnetic field attracted material is comprised of an iron alloy.

15. A device as claimed in claim 1 wherein said housing comprises a slotted housing.

16. A device as claimed in claim 1 wherein said sensor comprises a potentiometer.

17. A device as claimed in claim 1 wherein said sensor comprises a velocity sensor.

18. A device as claimed in claim 1 wherein said sensor comprises an accelerometer.

19. A device as claimed in claim 1 including a computer in electrical communication with the sensor.

20. A device as claimed in claim 1 wherein said movable member comprises a piston.

21. A device as claimed in claim 1 wherein said housing comprises a slotted tube.

(ix) *Evidence appendix.*

None

(x) *Related proceedings appendix.*


None

The Commissioner is hereby authorized to charge \$500.00 for payment of the Appeal Brief fee to Deposit Account No. 12-2143. The Commissioner is hereby authorized to charge any additional fees or credit any overpayments regarding this correspondence to Deposit Account No. 12-2143.

Respectfully submitted,
LORD CORPORATION

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